December 2002

Background | Regional Energy Issues | Oil | Oil Transit
Natural Gas | Natural Gas Transit | Coal | Electricity | Profile | Links

Baltic Sea Region

The Baltic states--including Estonia, Latvia, and Lithuania--occupy a strategic location as transit centers for Russia's northern oil exports. In addition, Belarus is a major transit center for Russian natural gas exports to Europe.

Note: Information contained in this report is the best available as of December 2002 and is subject to change.

GENERAL BACKGROUND

Alone among the former Soviet republics, the Baltic Sea region states of Estonia, Latvia, and Lithuania were quick to adopt market economies and to implement democratic reforms. As a result, they largely have avoided the economic and political crises that have beset other regions in transition from a centrally planned economy, including the Balkan region and southeastern Europe. Privatization in the Baltics is nearly complete, and in 2001, despite the downturn in the global economy, the three countries posted an average 6.3% increase in their real gross domestic product (GDP).

With a combined population of only 7.2 million people, Estonia, Latvia, and Lithuania have achieved greater presence in the international community by joining forces in a number of political and economic arenas. In November 2002, Estonia, Latvia, and Lithuania received invitations to join the North Atlantic Treaty Organization (NATO) in 2004. In addition, efforts to integrate with European institutions will soon pay off as the Baltic states are expected to join the European Union (EU) in mid-2004. Membership in NATO and the EU has been a stated foreign policy goal in each of the three countries since they became

independent.

Belarus, on the other hand, has refused to implement political and economic reforms since the collapse of the Soviet Union. Rather than integrating with Europe, Belarussian President Alyaksandr Lukashenko has isolated the country from the West following his election in 1994 by clamping down on the political opposition and by returning the Belarussian economy to a form of market socialism. Belarus continues to suffer from 60% inflation, and although the official unemployment rate is approximately 2.3%, the actual figure is believed to be much higher. Nevertheless, the country's real GDP grew by 4.1% in 2001, with a projected 4.6% increase in 2002.

REGIONAL ENERGY ISSUES

With little in the way of indigenous natural resources, Estonia, Latvia, Lithuania, and Belarus are dependent on energy imports in order to satisfy their domestic energy needs. Just as during Soviet times, the Baltic states and Belarus today are heavily reliant on Russian oil and natural gas, although Estonia, Latvia, and Lithuania have made efforts to diversify their energy suppliers. Belarus has maintained a closer relationship with Russia, and as such it has benefited by receiving cheaper energy supplies from its eastern neighbor, making Belarus even more dependent on Russia.

Although the Baltic states are not important energy consumers or producers, together they occupy a key transit location for Russian oil exports. Belarus is an important transit country for Russian natural gas exports to Europe, and Belarus also hosts a section of the Druzhba oil export pipeline originating in Russia. As the Baltic states seek to coordinate their energy sector legislation with the EU, energy sector privatization and energy market liberalization are becoming important regional issues as well.

OIL

Estonia has no proven crude oil reserves, but *polevkivi* (oil shale) is abundant in the northeastern part of the country. Oil shale provides over 75% of Estonia's total energy supply, making Estonia the only country in the world where oil shale is the primary source of energy. Oil shale is produced by majority state-owned Eesti Polevkivi (Estonian Oil Shale) near Kohtla-Jarve. Oil shale is consumed for power generation by the Eesti Energia and Kohtla-Jarve Soojus electric companies and for shale-to-oil processing by Kiviter AS, which processes the oil shale to produce about 4,400 barrels per day (bbl/d) of distillate liquid fuels. Estonia's indigenous oil shale production, however, is not sufficient to meet the country's demand for oil, which, at 25,000 bbl/d in 2001, has remained relatively steady throughout the past decade of transition. Estonia has no refineries, so it must import all petroleum products, either by rail or by pipeline.

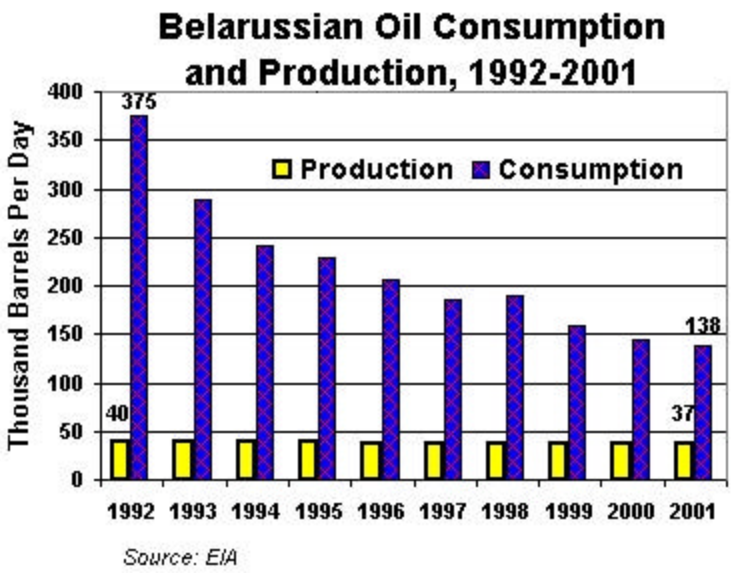
Oil shale production is heavily polluting, and as such Estonia is under heavy pressure from the EU to cut back significantly on its oil shale output. Eesti Polevkivi has indicated that it expects the oil shale industry to continue for another 40 years, but no new mines are scheduled to be built, and as Estonia tries to curb pollution from the oil shale industry in an effort to meet EU environmental regulations, Eesti Polevkivi is forecasting its production target will shift downward by 2006, from 12 million tons per year to 10.5 million tons per year. On July 30, 2002, the EU granted Estonia's request for oil shale operations to be approached the same way that the EU does coal, since the problems of the two natural resources are similar. The agreement, in which Estonia was given a long transition period in exchange for phasing out oil shale operations, allowed Estonia to close the energy chapter of its accession negotiations with the EU.

Latvia has no domestic oil production or refineries, so it is entirely dependent on imports of petroleum products to meet its consumption needs. Since 1992, when Latvia consumed an average of 52,200 bbl/d of oil products, domestic consumption has been on the decline, dropping to approximately 25,000 bbl/d in 2000. In 2001, Latvia imported around 21,000 bbl/d of oil products, mostly from Belarus, Russia, and Lithuania, with less than 3% coming from the EU. Of these imports, diesel fuel accounted for 43% of the total, while gasoline made up 29% and fuel oil 6%.

Latvia's territorial waters in the Baltic Sea are thought to contain up to 300 million barrels of oil, and on April 3, 2002, Latvia awarded TGS-Nopec, a U.S.-Norwegian joint venture, a non-exclusive oil exploration license for five years covering over 2,000 square kilometers in the Baltic Sea. In October 2002, Latvia's Economy Ministry said that it received only one bid, from Odin Energy, for a tender it announced in May 2002 for a 30-year exclusive oil exploration and drilling license in all of the Latvian waters of the Baltic Sea.

Lithuania has 12 million barrels of proven oil reserves, but the country's estimated total onshore oil resources could reach 337 million barrels, and possible reserves in the Lithuanian shelf of the Baltic Sea are estimated between 220 million and 440 million barrels. Geonafta, Lithuania's oil exploration company, and several joint ventures are undertaking onshore drilling projects in western Lithuania. Minijos Nafta, a Lithuanian-Danish joint venture, maintained its status as the country's biggest oil producer in 2001, producing approximately 63% of the country's oil in 2001, when Lithuania produced 4,600 bbl/d . Lithuania's oil production is projected to rise to 5,000 bbl/d in 2002, but with approximately 60,000 bbl/d of oil consumption in 2001, the country will remain a net oil importer. Russia is Lithuania's main supplier of crude oil.

After winning its independence from the Soviet Union, Lithuania reorganized and unified much of its oil industry, creating Mazeikiu Nafta by merging the Lithuania's only refinery (the 263,000-bbl/d-capacity Mazeikiai refinery), Butinge Nafta (which operates a new 160,000-bbl/d-capacity oil terminal at Butinge that is connected by pipeline to the Mazeikiai refinery), and Naftotiekis of Birzu (which operates the Birzu oil pipeline bringing Russian crude oil into Lithuania via the Russian Druzhba pipeline). The unified company accounts for between 5% and 10% of the country's nominal GDP.



In October 1999, Lithuania concluded a controversial $150 million agreement to sell Williams International (U.S.) a 33% stake in Mazeikiu Naftu. The deal gave Williams--which committed to make another $650 million in investment and modernization--operational control of the refinery, pipeline and crude terminal, as well as the right to buy a majority stake within five years. In addition to opposition from Lithuania's citizens, who were upset at the terms of the sale, Russian oil giant Lukoil was dismayed to be shut out of the partial privatization, and Lukoil, the coordinator of Russian oil exports to Lithuania, promptly began reducing oil supplies to the Mazeikiai refinery. Oil supply problems caused several shutdowns of the Mazeikiai refinery--the only refinery in the Baltic states--in 2000, causing Mazeikiu Nafta to lose $45 million that year.

In June 2001, Williams reached an oil supply deal with Yukos, Russia's second-largest oil company, alleviating some of the supply problems, although Mazeikiu Nafta continued to lose money. In June 2002, Yukos acquired a 26.85% stake in Mazeikiu Nafta for $75 million, becoming an equal partner with Williams, whose stake in the company decreased to 26.85% while the Lithuanian government's stake in Mazeikiu Nafta decreased from 59% to 40.66%. Yukos pledged to provide Mazeikiu Nafta with at least 4.8 million tons of oil per year (96,400 bbl/d) for 10 years. In September 2002, Yukos increased its shareholding in Mazeikiu Nafta to 53.7%, buying out Williams' stake for $85 million and taking over management rights and operational control in the Lithuanian oil complex. Yukos is boosting crude supplies

to the Mazeikiai refinery to 600,000 tons per month (145,000 bbl/d) during the last quarter of 2002, citing a 25% increase in refining margins. In the first nine months of 2002, the Mazeikiai refinery processed 4.725 million tons of crude (126,500 bbl/d), a 6.8% decline from the same time period in 2001.

Belarus has a small oil industry, and the country produced 37,000 bbl/d of oil in 2001. The country has 198 million barrels of oil in proven reserves, but the lack of political and economic reform in the past decade has hindered the entrance of any foreign investment to the sector in order to help boost production. Belarusnafta, the state-owned oil production monopoly, estimates that active oil deposits may last for another 17 years, with more difficult deposits (e.g. those with a water content of over 80% or with high viscosity) lasting for 34 years, taking into account the company's plan for oil extraction will remain around 40,000 bbl/d. On December 6, 2002, the Belarussian government sold its 10.83% stake in Slavneft, the Belarussian-Russian state-owned oil company operating in Russia, to Sibneft (Russia) for $207 million. Slavneft produced an average of 300,000 bbl/d of crude oil in 2001, a 22% increase over 2000.

Oil consumption in Belarus has fallen by half in the past decade, from 375,000 bbl/d in 1992 to approximately 138,000 bbl/d in 2001, yet Belarus still must import nearly 75% of its oil from Russia. According to a intergovernmental agreement, Russia will supply Belarus with 13 million tons of oil (261,000 bbl/d) in 2002. Although some excess capacity has been shuttered, Belarus has two refineries, the Naftan refinery in Navapolatsk Vitsebsk Region and the Mazyr refinery in the Homel Region, with a combined refining capacity of 493,000 bbl/d--still far higher than the country's oil consumption needs. In 2001, Belarussian refineries processed 266,500 bbl/d of oil, 146,500 bbl/d of which was refined by Naftan and 120,500 bbl/d by Mazyr. According to the Belarussian government, In the first ten months of 2002 Belarus refined 12.6 million tons of oil (an average of 303,000 bbl/d).

Oil Transit and Export

Latvia, Lithuania, and Estonia each have important ports for Russian crude oil and petroleum product exports. Transit fees for these oil and petroleum products that are destined for export are an important source of revenue in the Baltic states. Until recently, Latvia's Ventspils port was Russia's primary northern crude oil export terminal. However, in an effort to avoid these transit fees, Russia constructed its own oil export terminal at Primorsk, part of the country's new Baltic Pipeline System (BPS). The Primorsk terminal, with an initial capacity of 240,000 barrels per day (bbl/d), opened in December 2001. According to various estimates, ports in the Baltic states could lose between 10% and 50% of their current Russian oil export volumes. Nevertheless, projected increases in Russian oil exports, along with increased oil exports from the Caspian Sea region, especially Kazakhstan, appear to ensure that the ports in Estonia, Latvia, and Lithuania will remain important oil export terminals in the future.

Belarus is also an important transit country for Russian oil exports. The northern branch of Russia's 1-million-bb/d-capacity Druzhba oil export pipeline runs through Belarus on its way to the oil terminal in Ventspils, as well as to Poland and Germany. Oil exported from Russia via Belarus (approximately 50% of Russia's net oil exports go through Belarus) is not subject to export duties due to the Russian-Belarussian Union agreement, which, along with relatively high world oil prices and a 20% increase in Russian oil production since 1998, has contributed to the Druzhba pipeline running at or near capacity for the past several years.

Estonian Ports

In recent years, Estonia's ports at Tallinn and nearby Muuga have become major terminals for the export of Russian petroleum products, rivaling Ventspils as the largest transshipment center in the Baltics. Estonia's ports, which only export petroleum products such as heavy fuel oil, are not reliant on pipelines to deliver supplies. Instead, Estonian transit companies--such as Estonia Oil Service (E.O.S.), Eurodek, and Pakterminal--use rail cars to transport oil products from Russia to Estonian sea ports.

The Port of Tallinn, comprised of four separate harbors, handles the vast majority of Estonia's oil product exports. In 2001, port officials said that oil throughput jumped 17.8%, to 20.98 million tons (approximately 421,300 bbl/d), compared to 2000. Estonia's two largest oil transit companies, Pakterminal and Eurodek, handled 8.7 million tons (174,700 bbl/d) and 7.4 million tons (148,600 bbl/d), respectively, in 2001, while E.O.S. handled 5.5 million tons (110,500 bbl/d) during 2001. Through the first three months of 2002, the Port of Tallinn reported handling 5.68 million tons (456,000 bbl/d), up 25% year-on-year, as Russian oil companies increased petroleum product exports due to government-imposed crude export cuts.

Latvian Ports and Pipelines

Latvia's main oil and oil product pipelines stretch from Polotsk, Belarus across Lithuania to Ventspils. These pipelines are managed by the Latvian-Russian joint venture LatRosTrans, owned by the Ventspils Nafta oil terminal from Latvia and Transneft, Russia's pipeline monopoly. Latvia's Ventspils port, which is ice-free year-round, is the largest oil export terminal in the Baltics, and both Riga and Liepaja also have ports for exporting oil and oil products. The Ventspils oil terminal can handle about 500,000 bbl/d of crude, and Latvian officials have stated that its throughput capacity could be increased to 1.8 million bbl/d (although this would require about $30 million in investment). In 2001, Ventspils Nafta handled 22.3 million tons (447,800 bbl/d) of oil and oil products, up 18.6% from 2000.

Oil exports from Ventspils have been far below capacity, however, in 2002, mainly due to the opening of Russia's own export terminal at Primorsk in December 2001, but also due to competition from other Baltic ports. Despite several reduction in reloading tariffs over the past few years, Ventspils remains the highest-cost route for Russian crude oil exports in the Baltics, and the Primorsk terminal has taken away a a part of Ventspils' share of the oil export market. In the first ten months of 2002, Ventspils Nafta reloaded just 12.5 million tons (301,200 bbl/d) of oil and oil products, a 34.2% drop year-on-year. Latvia, which holds a 38.6% stake in Ventspils Nafta and another 5% already reserved for the terminal's current largest private shareholder, Latvijas Naftas Tranzits (which currently holds 47%), may be forced to sell its stake in the terminal as profits dry up and Russian oil companies send their exports elsewhere. Several Russian oil companies, as well as Transneft have expressed interest in Latvia's stake in Ventspils Nafta.

Lithuanian Ports and Pipelines

Lithuania hosts 140 miles of the 280,000-bbl/d-capacity Polotsk-Birzai-Mazeikiai pipeline, with oil transported to Lithuania via two main pipelines from Novopolotsk, Belarus to Birzai, from where one arm turns to Mazeikiu Nafta's oil refinery, and the other to Ventspils. Lithuanian recently completed a $120 million upgrade of the port at Klaipeda, expanding petroleum product export capacity to from 90,000 bbl/d to 160,000 bbl/d. In addition, in July 1999 Lithuanian launched the $267 million crude oil export/import terminal at Butinge near the Latvian border, with capacity of 160,000 bbl/d for crude oil and 50,000 bbl/d of oil products.

The Butinge terminal has been beset by problems since it was launched. After the controversial privatization of Mazeikiu Nafta, the company that operates the Butinge terminal, in 1999, Lithuania was unable to secure enough oil supplies to load at the terminal; Butinge exported just 60,000 bbl/d of crude oil and petroleum products in 2000, followed by 102,000 bbl/d in 2001. Furthermore, several accidents and oil spills at the Butinge terminal in 2001 caused tensions between Latvia and Lithuania as winds blew the spills into Latvian waters. The Butinge terminal was out of operation from January 2002 to March 2002 following a November 2001 oil spill, but almost 153,000 bbl/d were loaded at the terminal in the second quarter of 2002. For the first nine months of 2002, the Butinge terminal handled an average of 103,000 bbl/d. Since Yukos took over operational control of Mazeikiu Nafta in September 2002, the terminal has been operating at near capacity.

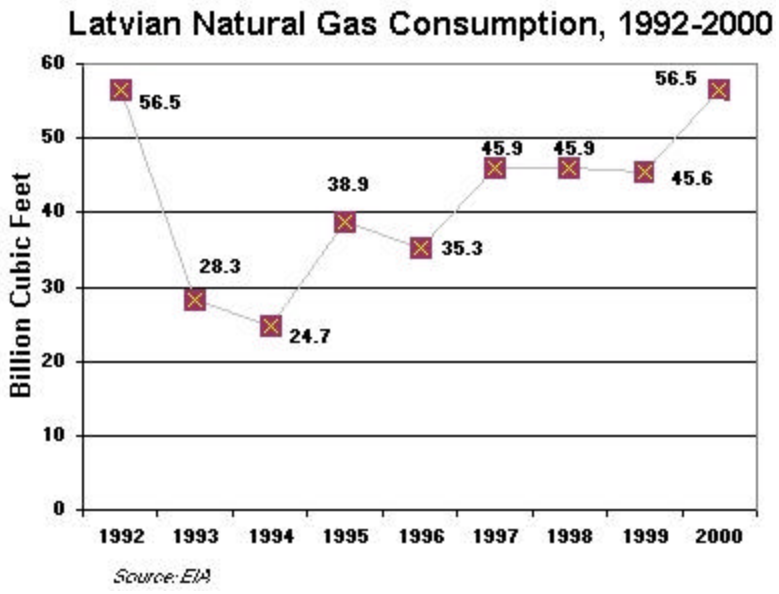
NATURAL GAS

Estonia has no natural gas reserves and therefore must import all of its natural gas for domestic

consumption. Currently, Estonia imports all of its supplies via the country's 250-mile pipeline network from Russia, but Estonia is keen to diversify, and Norway is a potential supplier. Estonia's natural gas consumption collapsed from 53 billion cubic feet (Bcf) in 1992 to just 21 Bcf in 1993 as Estonia attempted to reorient its economy to the West, but the country's consumption of Russian natural gas has crept slowly upwards in ensuing years.

In 2000, Estonia consumed 39.6 Bcf of natural gas, while Eesti Gaas (Estonian Gas), the former state-owned natural gas company that was fully privatized in 1997, reported that Estonia consumed 31.1 Bcf of natural gas in 2001. Eesti Gaas is the largest natural gas supplier in Estonia. In November 1999, Eesti Gaas, which is owned by Ruhrgas (Germany, 32%), Gazprom (Russia, 31%), Fortum (Finland, 10%), and Itera (9.5%), signed a long-term agreement with Gazprom to supply Estonia with natural gas from 2000 to -2005. Over 90% of Estonian district heating stations use natural gas, and natural gas is the primary fuel of the Viru Power Station, which produces both heat and power.

Since Latvia has no domestic natural gas reserves, all of the country's natural gas for domestic consumption is imported, mainly from Russia. After fluctuating wildly in the first few years after independence, Latvia's domestic consumption of natural gas remained steady at approximately 45 Bcf in the late 1990s before jumping to 56.5 Bcf in 2000. Of this total, approximately 50% is consumed by the country's main electric utility, Latvenergo.



Latvijas Gaze (Latvia Gas) controls the country's natural gas distribution system and its huge underground storage facility near Riga at Incukalns, the only natural gas storage facility in the Baltics and the third-largest storage facility in Europe. The former state-owned company has been restructured as a joint-stock company and has been substantially privatized. Latvijas Gaze's largest shareholders are Gazprom, Germany's Ruhrgas and EON Energie, and Itera Latvija, a subsidiary of Itera.

In October 2002, Latvijas Gaze reached an agreement with Russia's Gazprom on natural gas supplies to Latvia for the period from 2003 to 2005, providing for a 15% to 20% percent increase of supply price. Analyst have suggested the Latvijas Gaze agreed to the supply price increase in order to force the Latvian government to allow the company to hike its prices--unchanged since 1997--to consumers. Latvijas Gaze and the Latvian government have been at odds over liberalizing natural gas prices since May 2001 when the government rejected amendments to the country's energy law, proposed by Latvijas Gaze's shareholders, that would have stopped natural gas price regulation for industrial consumers.

Lithuania has minimal natural gas reserves and no natural gas production, making the country completely reliant on imports. Lithuania consumed 92 Bcf of natural gas in 2000, up from 76 Bcf in 1999 but still 35% less than the country consumed in 1992 just after its independence. According to Lithuanian government data, the country consumed 95 Bcf of natural gas in 2001, and the country is planning to increase its natural gas consumption in 2002 to 113 Bcf. In December 1999, Lietuvos Dujos (Lithuanian Gas), the majority state-owned company that controls Lithuania's natural gas transmission, distribution, and export operations, signed a long-term supply agreement with Russia's Gazprom, starting with 53 Bcf in 2000 and increasing to

88 Bcf in 2005.

Dujotekana, controlled by Gazprom, is Lithuania's largest natural gas importer, accounting for over 40% of the imports to the Lithuanian market. Itera also has begun supplying the Lithuanian market with Russian natural gas, and in line with the Lithuania's national energy strategy to diversify its supply sources, Lithuania is looking to Poland to supply it with Norwegian natural gas. Poland, which signed a 6-year, $11 billion deal in 2001 to import a total of 2.6 trillion cubic feet (Tcf) of natural gas from Norway, hopes to build another part of a natural gas pipeline from Gdansk to Lithuania by 2004. Lithuania and Poland will present a project study on the link-up of the two countries' natural gas pipeline networks with the European Union's natural gas network in early 2003.

After reorganizing the company, the Lithuanian government has begun to privatize Lietuvos Dujos, starting with a 34% stake that it sold to a German consortium of EON Energie and Ruhrgas for $33 million in June 2002. Russia's Gazprom was the sole bidder for a 34% stake in the second phase of the privatization in the fall of 2002, but as Lithuania's main natural gas supplier, Gazprom offered just 70% ($23.3 million) for the tender. In November 2002, Lithuanian authorities proposed postponing the the beginning of a wider liberalization of the country's natural gas distribution sector, hoping to delay deregulation in order to boost the value of Lietuvos Dujos and negotiate a higher sale price from Gazprom for its stake in the Lithuanian company. The Lithuanian government is planing to keep a 24.36% stake in Lietuvos Dujos and potentially sell it later on the stock exchange.

With just 7.4 Bcf in indigenous natural gas production in 2002, Belarus is heavily reliant on natural gas imports from Russia. Natural gas consumption in Belarus rose to 692 Bcf in 2000, surpassing levels not seen since before the country's independence. However, due to Belarus' inadequate natural gas pricing structure and payment recovery from consumers, the country has built up large arrears to Russia's Gazprom, despite the fact that Gazprom, which accounts for 62% of Belarussian natural gas imports, only charges Belarus $24 per 1,000 cubic meters (35,300 cubic feet) for natural gas supplies. (Itera, which accounts for 38% of Belarus' natural gas imports, charges $36 per 1,000 cubic meters.) In April 2001, Gazprom and Beltransgaz, the Belarussian state-run natural gas distributor, signed an agreement on restructuring debt for the natural gas supplied to Belarus between 1997 and 1999, but Belarus has continued to rack up payment arrears; as of November 22, 2002, Belarus also owed Russia $80 million for natural gas supplies in 2002.

On November 1, 2002, Gazprom announced that Belarus was nearing its contracted supply of natural gas for all of 2002, and consequently the Russian natural gas supplier cut shipments to Belarus by 50%. Belarussian officials protested, but Belarussian Prime Minister Gennady Novitsky later agreed that Minsk would pay Gazprom $202 million of the debt and speed up privatization of state-owned natural gas monopoly Beltransgaz, ending the dispute with Moscow. Under the deal, Gazprom increased it s supplies to 75% of their former levels while Belarus agreed to buy natural gas from the independent supplier Itera for the remainder of 2002. In addition, Gazprom expects to get 25% to 30% in Beltransgaz, which operates 4,100 miles of natural gas pipelines in Belarus, as well as eight compressor stations, 250 natural gas distribution stations and two natural gas storage reservoirs, as compensation for Belarussian natural gas arrears. Belarus pledged to transfer the stake to Gazprom before June 1, 2003.

Natural Gas Transit

Belarus hosts a 350-mile stretch of the 2,500-mile, trans-continental Yamal-Europe natural gas pipeline, as well as a section of the Northern Lights pipeline, both of which carry Russian natural gas exports to European consumers. Although Belarus does not transit nearly as much Russian natural gas as Ukraine, its importance as a transit state is growing. The first strand of the Belarussian section of the Yamal-Europe pipeline, which runs from Russia's Yamal peninsula through Belarus and Poland to Germany's eastern border, was completed in September 1999, substantially increasing Belarus' transit capacity. Nearly 1.5 Tcf

of Russian natural gas transited Belarus via the Northern Lights and Yamal-Europe I pipelines to customers in Europe in 2001.

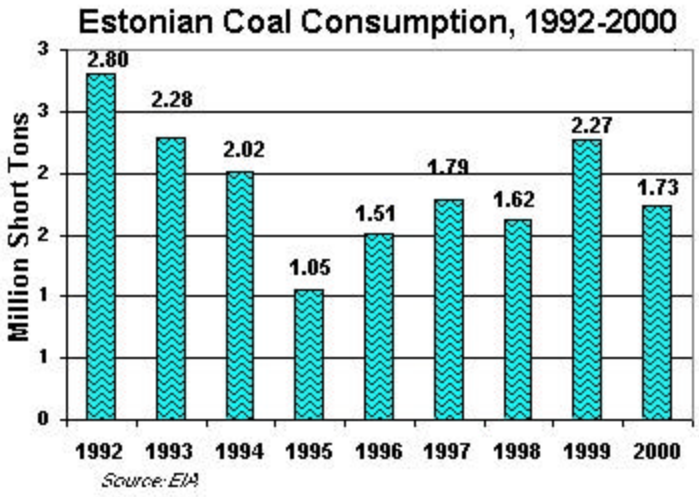
In July 2002, an additional 108-mile stretch of the Belarussian section of the Yamal pipeline was commissioned, increasing the country's transit capacity from 1.77 Tcf to 2.01 Tcf. By 2005, analysts say, natural gas transit to Europe via the transcontinental Yamal pipeline alone may exceed 1 Tcf. Russia charges Belarus lower prices for natural gas since Russia receives reduced tariff rates for its natural gas that transits Belarus to customers in Western Europe. Beltransgaz charges Russia a transit tariff that is approximately one-third of the tariff in other countries. However, Russia's dispute with Belarus over natural gas supplies for Belarus' domestic consumption, as well as Belarus' mounting debts to Russia for supplies already received, calls into question the reliability of Belarus as a transit state for Russian natural gas exports to Europe.

Gazprom's proposed North TransGas project, viewed by many as a way for Russian natural gas to bypass Belarus en route to European consumers, could result in the Baltic states becoming transit centers for natural gas. The project, which would be carried out by Gazprom in conjunction with Finland's Fortum and Germany's Wintershall, would pump natural gas to Scandinavian and German customers via a pipeline beneath the Baltic Sea. Three options for the pipeline route have been identified: Russia-Finland-Gulf of Bothnia-Sweden-Baltic Sea-Germany; Finland-Baltic Sea-Gotland-Germany; or St. Petersburg-Germany via a pipeline on the bottom of the Baltic Sea. Although none of these options call for the pipeline to transit any of the Baltic states, a pipeline extension to Estonia may be possible and, according to Estonian officials, it may even be desirable for the project's participants, since it could cut down on the costs of part of the subsea pipeline.

In addition, Latvia's huge natural gas storage facilities could play an important role in the project. An extension from the North TransGas pipeline to Latvia would allow Russia to supply the pipeline with natural gas stored in Latvia. Latvijas Gaze typically pumps natural gas into the 141-Bcf-capacity Incukalns storage facility during the spring and summer, drawing it down as needed during heating season in the winter. Latvia has a number of other large natural gas storage facilities, and Gazprom exports a portion of the natural gas stored in these facilities to Estonian, Lithuanian, and Russian consumers, while Latvijas Gaze is charged for the natural gas which is distributed within Latvia. For the purposes of the 2002-2003 heating season, Latvia stored a total of 1.832 billion cubic meters (64 Bcf) of natural gas in the Incukalns. Latvijas Gaze is working to expand the capacity at Incukalns to 177 Bcf by 2005.

COAL

The Baltic Sea region countries do not contain any significant coal deposits, so there is no regional coal production. Since the collapse of the Soviet Union , the Baltic states and Belarus have reduced their coal consumption, shifting to more domestic sources of energy for power generation and heat. Mindful of EU environmental standards, Estonia, Latvia, and Lithuania have also attempted to shift their energy balance towards cleaner fuels in an effort to mirror European norms and join the EU. Nevertheless, each country still imports a small amount of coal--mainly from Poland and Russia--for domestic energy purposes.



Estonia imports a small amount of lignite coal,

mainly for district heating. Throughout much of the 1990s, Estonia's coal consumption was on the decline, with consumption falling from 2.08 million short tons (Mmst) in 1992 to 1.62 Mmst in 1998. Estonia's coal consumption rose to 2.27 mmst in 1999 before falling to 1.73 Mmst in 2000.

Latvia imports a small amount of coal as well, mostly from Poland. The country's coal consumption declined 80% from 1992 to 2000, from 0.74 Mmst to 0.15 Mmst. Although Latvia has no coal production, it does produce about 500,000 metric tons of peat each year. Peat covers approximately 10% of Latvia's territory, with the heaviest concentration in the eastern plains near Riga. All peat production companies in Latvia have been privatized, but most of the peat deposits are still owned by municipal governments, which rent the deposits for extraction.

Coal consumption has been substantially reduced in both Lithuania and Belarus as well. Lietuvos Kuras, a joint-stock company that operates a number of Lithuania's service stations, imports a small amount of coal, but in 2000, Lithuania consumed just 0.18 Mmst of coal, down 75% from its consumption level of 0.73 Mmst in 1992. Likewise, Belarus consumed 2.1 Mmst of coal in 1992, but since the fall of the Soviet Union, coal imports have been cut by two-thirds, and in 2000 Belarus imported only 0.7 Mmst of coal for domestic consumption.

ELECTRICITY

Estonia has 3.4 gigawatts (GW) of electric-generating capacity, providing the country with ample electricity to meet domestic demand. The majority of this generating capacity comes from Estonia's two oil-shale-fired power plants in the northeast of the country, the 1,610-MW Eesti plant and the 1,390-MW Balti plant. The two power stations, the Narva Power Plants, supply approximately 95% of Estonia's electricity. Although Estonia has a small amount of hydropower and other renewable energy capacity, the power produced at these facilities costs twice as much as the electricity generated at the oil-shale-fired power plants.

In 2000, Estonia generated 7.1 billion kilowatt-hours (Bkwh) of electricity, which was more than enough to cover the country's overall consumption of 5.4 Bkwh of power. Estonia exports its excess power to Latvia and to northwestern Russia. In Estonia's negotiations with the EU with regard to energy, the EU recognized the priority position of oil shale-fired power plants, granting the country a transition period to phase out the polluting power plants. In order to shift to cleaner and less polluting energy sources, Eesti Energia, the state-owned electric company, is hoping to boost hydropower production to 10% of the country's overall electricity generation.

Prior to 1995, all of Estonia's electricity had been produced entirely by Eesti Energia, but in 1996, the first steps towards privatization were taken with the establishment of the joint-stock company Kohtla-Jarve Soojus comprising Estonia's two smaller oil shale-fired power plants, the Ahtme and Kohtla-Jarve Power Stations. In August 2000, the Estonian government finalized a controversial $70.5-million deal to sell a 49% stake in the Narva Power Plants to NRG Energy (U.S.), which agreed to invest nearly $200 million more to refurbish the Soviet-era power plants. In January 2002, prior to the actual privatization, Estonia canceled the sale, citing a deadline at the end of December 2001 that NRG Energy missed to secure financing for renovation of the facilities. NRG Energy has filed a $100-million lawsuit against Eesti Energia, which is now the sole owner of the Narva Power Plants, demanding compensation for the abortive privatization.

Hydroelectricity is the main generating source of electricity in Latvia, as approximately 73% of the country's 2.1-GW power-generating capacity is hydroelectric. Three hydropower plants, Kegums-Plavinas-Riga, constitute the Daugava cascade located on the Daugava River. All three hydroelectric plants have recently been modernized, with the Kegums hydropower station, built in 1939, officially re-opened in August 2001 after $21 million worth of renovation to extend its service life for another 40 years.

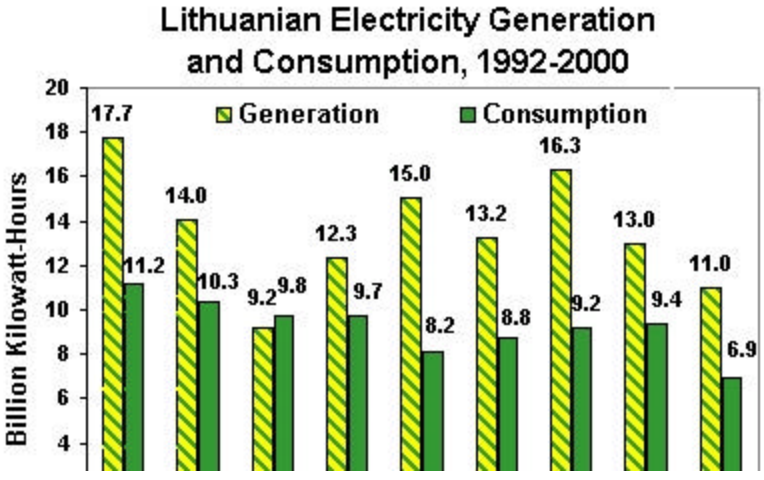
Hydroelectric power plants on the Daugava River are Latvia's main power producers, but their output, along with the TEC-1 and TEC-2 power plants that constitute 97% of Latvia's thermal power-generating capacity, is insufficient to cover the country's power needs. When water levels in hydroelectric reservoirs are low, Latvia must import between 30% and 40% of its electricity. In 2000, due to low water levels, Latvia produced just 3.2 Bkwh of power domestically and was forced to import 1.9 Bkwh of power to satisfy the country's 5.2 Bkwh demand. Latvia regularly imports electricity from Estonia and Lithuania.

Latvenergo, the country's state-run electric utility and Latvia's largest company, was scheduled to be privatized in 2000, but public opposition to foreign ownership forced the Saeima (the Latvian parliament) to amend the country's energy law to prevent the company's privatization. Latvenergo and Eesti Energia also announced merger plans in summer 2000, but the Saeima decided to retain state ownership over the utility. Although some Latvian privatization officials have warned that Latvenergo's energy distribution system may deteriorate unless there is a new influx of investment, the Latvian government is proceeding with a plan for the utility's reorganization in preparation for Latvia's accession to the EU. The reorganization, which will be guided by the EU directive with regard to energy market liberalization, is geared to prepare the utility for free market conditions.

With a generation capacity of 5.8 GW, Lithuania's power sector generates substantially more electricity than the country consumes domestically. In 2000, Lithuania produced 11.0 Bkwh of electricity--far more than the 6.9 Bkwh that the country consumed that year, leaving Lithuania with excess power to export to Latvia, to the Kaliningrad region of Russia, and to Belarus. However, a dispute with Belarus over payment for $50 million worth of power supplied in 1998 and 1999 continues to linger, prompting Lithuania to shut off power exports to its neighbor periodically. Nuclear power from the massive 2,370-MW Ignalina Nuclear Power Plant (NPP), the sole nuclear plant in Lithuania, accounts for over 70% of the electricity generated in Lithuania, earning it the distinction as the most nuclear-dependent country in the world.

Lietuvos Energija (Lithuanian Energy), a joint-stock company formed by the reorganization of the Lithuanian state power system in 1995, is the largest electric power company in Lithuania. The Lithuanian government holds an 86.5% share in the company. Besides transmitting and distributing all electricity generated in Lithuania, Lietuvos Energija owns the Ignalina NPP, as well as all the major conventional fuel power plants in Lithuania, including Elektrenai, Kruonis Hydro Power Plant, Kaunas Hydro Power Storage Plant, and Mazeikiai Combined Heat and Power Plant. In 1998, the Vilnius Power Station became independent of Lietuvos Energij, and in July 2002, Lithuania updated its national energy strategy with plans for selling at least 50.1% of Mazeikiu Elektrine (Mazeikiai Power Plant) and two electricity distribution network operators, Rytu Skirstomieji Tinklai (RST) and Vakaru Skirstomieji Tinklai (VST), by the spring of 2003. The state would retain 34% shares in the companies, as well as Lietuvos Energija and the power grid.

The EU has expressed safety concerns over the Ignalina NPP, which is of the same Soviet-era design as Ukraine's ill-fated Chornobyl NPP. Despite a number of safety measures introduced at Ignalina over the past decade, the EU considers the plant's two power units to be dangerous, and as a result the EU has made closure of the Ignalina plant a pre-condition for Lithuanian membership in that organization. In exchange for the right to begin EU membership negotiations, in 1999 Lithuania's parliament pledged to take



Ignalina-1 out of operation by January 1,
2005, while a decommissioning date for the second reactor is still undecided. The EU is trying to convince Lithuania to shut down the second reactor before 2009.

To facilitate the closure and to develop alternative sources of power, the EU announced at the end of 1999 that it would provide additional aid to Lithuania through its Phare program. In June 2000, representatives from countries around the world pledged nearly $195 million to help Lithuania shut Ignalina-1. However, the Lithuanian Economics Ministry predicts costs to close the nuclear plant down will reach $2.4 billion by 2020 and will eventually top $3 billion. The country also needs an estimated $910 million to modernize its non-nuclear power plants and transmission lines to ensure sufficient generation after Ignalina is decommissioned.

The most critical project is modernization of the 1,800-MW combined heat and power Lithuanian Power Plant (LPP). The LPP, which can run on both oil and natural gas, was built between 1962 and 1972 and operated at full capacity until 1992. Although the LPP has used over 80% of its technical lifetime, a Lithuanian government study has shown that it is less costly to modernize the plant than to build a modern plant of similar size. Once Ignalina shuts down, the LPP will be the country's primary source of power generation. Approximately $13 million will be needed to renovate the LPP before 2005, with a further $264 million needed between 2006 and 2010. A second project involves renovation of the Kaunas combined heat and power plant, a 170-MW unit built in 1960. Another $331 million will be needed for modernizing Lithuania's transmission grid, a two-stage project planned for 2001-2005 and 2006-2010.

Belarus has a power-generating capacity of 7.5 GW. Oil- and natural gas-fired power plants make up 99.9% of Belarus' power generation, with hydroelectric accounting for just 0.1%. Both electricity consumption and generation have declined in the decade since independence, but the country's decaying infrastructure and a lack of investment in maintenance and upgrades has resulted in power generation decreasing faster than consumption, meaning Belarus is still a net importer of electricity for about 20% of its annual power demand. In 2000, Belarus produced 24.7 Bkwh of power but consumed 26.8 Bkwh.

The Belarussian government has attempted to stifle domestic power consumption and cover production costs by implementing incremental price increases, including a 25% price rise for residential consumers in February 2002. However, the country's accelerating inflation consistently has outpaced tariff increases, and nonpayment by consumers, as well as the Belarussian government's unwillingness to cut off debtors, has forced Belenerha into a dire financial position, unable to pay for imported electricity supplies. With Lithuania periodically suspending electricity supplies to Belarus in order to force debt payment, Belarus has turned to Russia as its main source for its power imports. Belenerha, the state-owned energy utility, imported over 5 Bkwh of Russian electricity in 2001, with an additional 0.9 Bkwh of power imported from Lithuania. Russia's electricity monopoly, Unified Energy Systems (UES), agreed to supply Belarus with up to 5.5 Bkwh of electricity in 2002.

Table 1. Economic and Demographic Indicators for Selected Baltic Sea Region Countries

Country	Gross Domestic Product (Nominal GDP), 2001E (Billions of US$, Market Exchange Rate)	Real GDP Growth Rate, 2001 Estimate	Real GDP Growth Rate, 2002 Projection	Per Capita GDP, 2001E (Market Exchange Rate)	Population 2002E (Millions)
Estonia	$5.4	5.4%	5.3%	$4,000	1.4
Latvia	$7.5	7.6%	4.8%	$3,190	2.3

Lithuania	$12.0	5.9%	5.9%	$3,444	3.5
Subtotal/weighted average	**$24.9**	**6.3%**	**5.4%**	**$3,458**	**7.2**
Belarus	$12.2	4.1%	4.6%	$1,228	9.9
Total/weighted average	**$37.1**	**5.6%**	**5.2%**	**$2,170**	**17.1**

Source: Global Insight

Table 2. Energy Consumption and Carbon Dioxide Emissions in Selected Baltic Sea Region Countries, 2000

Country	Total Energy Consumption (Quadrillion Btu)	Petroleum	Natural Gas	Coal	Nuclear	Hydro-electric	Other Electricity	Net Electricity Imports	Carbon Dioxide Emissions (Million metric tons of carbon)
Estonia	0.09	55.5%	44.4%	11.1%	0%	0.04%	0.1%	-11.1%	1.89
Latvia	0.16	31.3%	37.5%	1.9%	0%	12.5%	0%	16.8%	1.92
Lithuania	0.27	40.7%	33.3%	1.5%	33.3%	1.1%	0%	-9.9%	3.56
Subtotal/weighted average	**0.52**	**40.4%**	**36.5%**	**3.3%**	**17.3%**	**4.4%**	**0.02%**	**-4.2%**	**7.37**
Belarus	1.08	28.7%	66.6%	1.9%	0%	0.02%	0.1%	2.7%	16.47
Total/ weighted average	**1.6**	**32.5%**	**56.9%**	**2.3%**	**5.6%**	**1.5%**	**0.07%**	**-1.5%**	**23.84**

Source: Energy Information Administration
Note: percentages may not add up to 100% due to rounding.

Table 3. Energy Supply Indicators, Selected Baltic Sea Region Countries

Country	Proven Crude Oil Reserves, 1/1/02 (Million Barrels)	Natural Gas Reserves, 1/1/02 (Billion Cubic Feet)	Coal Reserves, 1/1/01 (Million Short Tons)	Petroleum Production, 2001 (Thousand Barrels Per Day)	Natural Gas Production, 2000 (Billion Cubic Feet)	Coal Production, 2000 (Million Short Tons)	Electric Generating Capacity, 2000 (Gigawatts)	Crude Oil Refining Capacity, 1/1/02 (Thousand Barrels Per Day)
Estonia	4 million metric tons of oil shale	minimal	minimal	4.4 (oil shale)	0	0	3.4	0
Latvia	minimal	minimal	minimal	0	0	0	2.1	0
Lithuania	12	minimal	minimal	4.2	0	0	5.8	263
Subtotal	**12 + oil shale**	**minimal**	**minimal**	**8.6**	**0**	**0**	**11.3**	**263**
Belarus	198	100	minimal	37	7.4	0	7.5	493
Total	**210 + oil shale**	**100**	**minimal**	**45.6**	**7.4**	**0**	**18.8**	**756**

Source: Energy Information Administration

Sources for this report include: Agence France Presse, Baltic News Service, The Baltic Times, BBC Former

Soviet Union Monitoring Unit, CIA World Factbook, US Department of Commerce's Central and Eastern Europe Business Information Center, Deutsche Presse-Agentur, Dow Jones, US Department of Energy, US Energy Information Administration, Environment News Service, Estonian News Agency, The Financial Times, FSU Oil and Gas Monitor, Global Insight, Interfax News Agency, ITAR-TASS, Nefte Compass, PAP Polish Press Agency, PR Newswire, Radio Free Europe/Radio Liberty, Reuters, RosBusinessConsulting Database, Russian Business Monitor, Russian Economic News, Russian Oil and Gas Report, US Department of State, The St. Petersburg Times, and World Markets Analysis.

LINKS

For more information from EIA on the Baltic Sea Region and Belarus, please see:

EIA: Country Information on Estonia
EIA: Country Information on Latvia
EIA: Country Information on Lithuania
EIA: Country Information on Belarus

Links to other U.S. government sites:

U.S. Agency for International Development
CIA World Factbook
U.S. Department of Commerce, Central and Eastern Europe Business Information Center (CEEBIC)
U.S. Department of Commerce, International Trade Administration: Energy Division
U.S. Department of Commerce, Trade Compliance Center: Market Access Information
Library of Congress Country Study on the former Soviet Union
Radio Free Europe/Radio Liberty
U.S. State Department: Background Notes
U.S. Department of State: Northern Europe Initiative
U.S. Embassy in Belarus
U.S. Embassy in Estonia
U.S. Embassy in Latvia
U.S. Embassy in Lithuania

The following links are provided solely as a service to our customers, and therefore should not be construed as advocating or reflecting any position of the Energy Information Administration (EIA) or the United States Government. In addition, EIA does not guarantee the content or accuracy of any information presented in linked sites.

Baltic News Service
The Baltic Times
Central Europe Online
Central Europe Review
Central Statistical Bureau of Latvia
Embassy of the Republic of Belarus in the U.S.
Embassy of Estonia: United States, Mexico, Canada
Embassy of the Republic of Latvia in the U.S.
Embassy of the Republic of Lithuania in the U.S.
Estonia OnLine
European Bank for Reconstruction and Development
Interfax News Agency
Latnet: Latvian News Service
PlanEcon
Regional Environmental Center for Central and Eastern Europe

Statistical Office of Estonia
University of Texas: Russian and East European Network Information Center
United Nations Framework Convention on Climate Change and the Kyoto Protocol
The Washington Post

If you liked this Country Analysis Brief or any of our many other Country Analysis Briefs, you can be automatically notified via e-mail of updates. You can also join any of our several mailing lists by selecting the listserv to which you would like to be subscribed. The main URL for listserv signup is http://www.eia.doe.gov/listserv_signup.html. Please follow the directions given. You will then be notified within an hour of any updates to Country Analysis Briefs in your area of interest.

Return to Country Analysis Briefs home page

File last modified:

December 19, 2002

Contact: Erik Kreil
Erik.Kreil@eia.doe.gov
Phone: (202) 586-6573
Fax: (202) 586-9753

EIA Home
Contact Us

URL: http://www.eia.doe.gov/emeu/cabs/baltics.html